



# County of San Diego

## DEPARTMENT OF ENVIRONMENTAL HEALTH FOOD AND HOUSING DIVISION

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## Construction Guide for Mobile Food Preparation Units and Stationary Mobile Food Preparation Units

### I. INTRODUCTION

This Construction Guide is available to any person intending to construct or remodel a Mobile Food Preparation Unit or Stationary Mobile Food Preparation Unit for use in the County of San Diego. The purpose of this guide is to serve as a general overview of the requirements and may not be all-inclusive. Please contact Environmental Health Plan Check and Construction Unit at one of the above phone numbers if you require further information regarding your particular plan.

Mobile food facilities (motorized ice cream trucks, motorized produce trucks, motorized hot dog carts, and all other types of push carts) are not intended in this construction guide.

### II. PLAN CHECK FEES

- A. A plan check fee must be paid at the time of plan submittal. Current fee schedules are available upon request.
- B. A remodel is any construction or alteration to an existing food vehicle, which alters its configuration or method of operation.
- C. Remodel does **not** include the following types of construction, which would be considered new construction:
  - 1. The installation of a food facility in a new structure or in an empty vehicle shell.
  - 2. The installation of a food facility in a former nonfood related facility, such as a delivery vehicle or an office trailer, or into a former food facility from which all equipment and interior structures have been removed.

### III. PLAN SUBMITTAL

- A. Plans are required for designs of new mobile food preparation units and stationary mobile food preparation units, which have not been previously approved by the County of San Diego.

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- B. Before constructing, enlarging, altering or converting any vehicle, two (2) copies of detailed plans and specifications must be submitted to Environmental Health for approval. The plans shall be at least ½-inch to one-foot scale using non-erasable ink or print (No pencil).
- C. Plans may be prepared by an architect, draftsman, contractor, or owner. All plans must be drawn in a professional manner encompassing all applicable requirements of this construction guide.
- D. Plans shall include:
  - 1. A complete interior and exterior floor plan with detailed floor elevation drawings including proposed equipment, counters, and cabinets.
  - 2. A complete electrical plan including the maximum wattage demand for each piece of equipment and location of all electrical outlets.
  - 3. A complete plumbing plan including the size and location of portable water tank(s), sinks, soda dispensing system, waste tank(s), and hot water heater.
  - 4. A complete equipment layout, including elevations of equipment and equipment manufacturer's specification sheets.
  - 5. A complete exhaust ventilation plan, including makeup air.
  - 6. A finish schedule for walls, ceilings and floors that indicates the type of material, the surface finish, the color and the type of integral covered base at the floor / wall juncture. Samples of proposed finish materials must be submitted with the plans.
  - 7. A complete menu listing foods to be offered for sale.

**Plans that are incomplete and plans that have a multitude of changes will require revision before approval may be granted.**

If any changes to the approved plans are proposed, they must be reviewed and reapproved by this Department prior to being implemented.

All equipment design, construction and installation is subject to approval by this Agency.  
**Food related and utensil-related equipment must meet or be equivalent to applicable ANSI certified sanitation standards, such as NSF International Food Service Equipment Standards.**

#### **IV. CONSTRUCTION INSPECTIONS**

After plans have been approved and stamped, an approval letter and one copy of the plan will be returned to the plan submitter.

Contact your Plan Checker at least 3 working days in advance for an appointment for the final inspection. Final approval must be obtained prior to opening for business.

## V. GENERAL CONSTRUCTION AND EQUIPMENT REQUIREMENTS.

All mobile food preparation units and stationary mobile food preparation units shall bear an insignia of approval from the **California Department of Housing at (951) 782-4420** or similar insignia from local state jurisdiction.

### A. FLOORS

1. Floors shall be slip resistant, durable, smooth, impervious to moisture and easily cleanable.
2. The floor/wall juncture shall be coved with a minimum 3/8<sup>th</sup>-inch radius. The floor surface shall extend up the wall at least four inches with a metal cap. Vinyl or rubber topset cove base is not acceptable.
3. Flooring under equipment and on the coved bases shall be completely smooth.

### B. WALLS / CEILINGS

1. Walls and ceiling surfaces in the food preparation area and food storage areas shall be light color, smooth, durable, impervious to moisture, and easily cleanable. The entire food preparation and food storage area shall be enclosed with a **solid** material.
2. Wall materials other than metal, smooth plaster or puffy coat plaster, drywall with sealed and taped joints, or plywood with properly sealed joints requires submission of a sample.

### C. EXHAUST HOODS AND DUCTS

1. Approved commercial cooking equipment shall be provided as required by the type of food service proposed.
2. Approved mechanical exhaust ventilation equipment, meeting the Uniform Mechanical Code standards, shall be required at or above all cooking equipment such as ranges, griddles, ovens, deep fat fryers, barbecues, and rotisseries to effectively remove cooking odors, smoke, steam, grease, and vapors.
3. Every exhaust ventilation hood shall be so designed and installed to provide for thorough cleaning of the entire hood.
4. Grease filters or other means of grease extraction are required and shall be of steel construction, or other approved material, and shall be readily accessible for cleaning.
5. All hoods, ducts, and exhaust outlets shall be installed in accordance with Department of Housing, or local governing jurisdiction.
6. When grease gutters are provided, they shall drain to a collecting receptacle fabricated, designed, and installed to be readily accessible for cleaning.

7. All joints and seams shall be tight or soldered for ease of cleaning. Riveted seams are not acceptable.
8. All seams in the hood and ductwork shall be substantially tight to prevent the accumulation of grease. The ducts shall have sufficient clean-outs to make the ducts readily accessible for cleaning.
9. Canopy-Type Hoods:  
The lower lip of canopy-type hoods shall not be more than 7 feet above the floor and shall not be more than 4 feet above the cooking surface. The hood shall overhang or extend a horizontal distance not less than 6 inches beyond the outer edges of the cooking surfaces on all open sides. It shall have grease troughs and drip pans that are easily cleanable.
10. Non-canopy-type Hoods:  
Non-canopy type hoods will be approved providing they are constructed to be easily cleanable and they comply with the minimum exhaust air velocity requirements. Shielding at the ends of the hood may be necessary to prevent interference from cross drafts.
11. Make Up Air:  
Make up air shall be provided at least or equal to that amount which is mechanically exhausted. Make-up air may be accomplished from screened service openings, vents in the ceiling, or mechanically through an air-conditioning system, but not through open doors or openable windows.
12. Fire-Extinguishing Systems:  
Fire extinguishing systems may be required by local fire department codes. They shall be installed so as to allow easy cleanability of the hood and duct systems, and whenever possible, shall not be installed above the food or utensil handling areas.

#### D. REFRIGERATION

1. All refrigeration units shall be adequate in capacity to the needs of the proposed operation and shall comply with the following requirements:
  - a. Specifically constructed for commercial use. (Domestic model refrigeration units will not be accepted.)
  - b. Capable of maintaining the perishable foods at or below 41°F at all times.
  - c. Equipped with an accurate, readily visible thermometer.
  - d. Equipped with shelving that is non-absorbent and easily cleanable.
  - e. Approved commercial mechanical refrigerators and / or freezers, which will accommodate the storage demand of the food service proposed, shall be provided inside the food facility.

#### WALK-IN REFRIGERATION UNITS

1. All walk-in refrigerators shall be installed with a 3/8 inch radius coved base at the floor-wall juncture; the flooring material shall extend up at least 4 inches on the walls. Four inches approved metal topset coved base with a minimum 3/8 with radius is acceptable against metal wall surfaces of walk in refrigeration units. Sample of flooring materials must be submitted for approval, to this Department, prior to installation.

E. ICE MACHINE / ICE BIN

1. All ice machines or ice bins shall be installed at least 6 inches off the floor on metal legs or on a platform, which is tightly sealed. Liquid waste generated from the ice machine or ice bin shall be drained to the liquid waste tank or directly to the sewer in an approved manner via an air gap to prevent contamination by possible back siphonage. The air gap shall be twice the diameter of the liquid waste drain line.

F. UTENSIL SINK / COMPARTMENT SINK

1. An approved three-compartment metal sink equipped with dual integral metal drainboards shall be provided. The dimensions with of each compartment shall be at least 12 inches wide, 12 inches long, and 10 inches deep. A larger sink may be required if deemed necessary by the plan review process.
2. The drainboard shall be installed with at least 1/8 inch per foot slope toward the sink, and fabricated with a minimum of 1/2-inch lip or rim to prevent the draining liquid from spilling onto the floor. Each drainboard shall be at least the size of one of the sink compartments.
3. The three-compartment sink shall be equipped with hot (120° F) and cold running water from a mixing faucet and equipped with a swivel spigot capable of servicing any sink compartment individually as desired.
4. A minimum 12" high metal splashguard shall be installed between the handwashing sink and the drain board of the utensil sink. The exposed corner of the metal splashguard shall be rounded. Splash guard is not required if the utensil sink drainboard and the hand sink are at least 2 feet apart.

G. HANDWASHING SINKS

1. An unobstructed hand-washing sink, separate from the three-compartment sink, supplied with hot and cold water under pressure and a mixing valve faucet shall be provided in the food preparation area.
2. The handwashing sink shall be at least 9" by 9" and at least 5" in depth. Soap and paper towels shall be provided in single service, permanently installed dispensers at the hand-washing sink. Domestic roll type dispenser and bar soap are not acceptable.

H. GENERAL PURPOSE HOT WATER

1. A hot water heater with a minimum capacity of three gallons or an instantaneous heater capable of constantly producing water of 120 F interconnected with the portable water tank shall be provided. The rate of flow shall be a minimum of one gallon per minute.

2. The water heater shall have an uninterrupted power supply and operated independently of the vehicle engine.

#### I. PASS THROUGH WINDOWS

1. When food is passed through a window to a customer on the outside of the vehicle, the size of the window opening shall not exceed 216 square inches.
2. The minimum distance between pass through window is 18 inches.
3. All openings must be equipped with a self-closing device such as screen or solid material. Screening material shall be at least 16 mesh per square inch.
4. A maximum of 432 square inches is allowable with an approved insect exclusion device / air curtain which will produce an air flow eight inches thick at the discharge opening and an air velocity of 750 feet per minute as measured three feet below the device. The airflow must continue along the entire horizontal width of the window opening.
5. The counter surface of the pass-through window must be smooth, free of channels and crevices, and be easily cleanable.

#### J. BACKUP DRY FOOD AND BEVERAGE STORAGE

Adequate and suitable space shall be provided for the orderly storage of food and food service materials.

#### K. DOORS

Entrances to the food preparation areas shall be equipped with well fitted, with a self-closing device.

#### L. LIGHTING

1. Ceiling light fixtures shall be recessed or flush mounted and sealed. The fixtures shall be equipped with safety covers approved by Environmental Health.
2. A minimum of 20 foot-candles of light as measured 30 inches above the floor shall be provided.

#### M. EQUIPMENT

1. All food related equipment shall meet or be equivalent to applicable sanitation standards established by recognized testing organizations or in the absence of any such standard, shall be approved by Environmental Health.
2. Approved hot holding equipment shall be provided to maintain potentially hazardous foods that is kept hot at a temperature of 135° F or higher.

N. EQUIPMENT INSTALLATION REQUIREMENT

1. All show and display cases, counters, shelves, tables, refrigeration equipment, sinks and other equipment used in connection with the preparation, service and display of food, shall be made of nontoxic materials and constructed and installed as to be easily cleanable.
2. All equipment shall be installed to prevent vermin harborage and provide adequate access for service and maintenance.
3. All equipment shall be spaced a minimum of 4" apart and for easy cleaning or shall be sealed together.
4. All equipment shall be placed on minimum six-inch high, easily cleanable legs or on a four-inch high continuously coved curb, or on approved casters, or cantilevered from the wall in an approved manner.
5. All equipment shall be sealed to the floor to prevent moisture from getting under the equipment or the equipment shall be raised at least 6" off the floor by means of an easily cleanable leg and foot or on a 4-inch high continuously coved curb.
6. All pressurized cylinders shall be securely fastened to a rigid structure of the vehicle.

Note: Food equipment or machinery of a size and weight that can be easily picked up and moved by one person, and equipped with a flex connection need not comply with minimum leg height requirement.

O. EXTERIOR REQUIREMENTS

1. The business name, address, and telephone number of the owner, operator, permittee, or commissary of the mobile food preparation unit or stationary mobile food preparation unit, shall be permanently indicated on at least two sides of the exterior of the vehicle in letters of contrasting colors. The business name shall be at least three inches high in a minimum 3 inches high and 3/8 inch-wide stroke. The address and telephone number lettering shall be at least one inch high.
3. Attachments (such as a can opener) shall not be mounted on the exterior of the mobile food preparation unit or stationary mobile food preparation unit.
4. Adequate waste containers shall be furnished for the use of customers. These containers shall be of easily cleanable construction and furnished with a tight-fitting cover.
5. The entrance door to the food preparation area shall be self-closing.
6. The vehicle shall be vermin-proof.

P. INTERIOR REQUIREMENTS.

1. Food contact surfaces shall be constructed of metal, high pressure laminated plastics, or laminated hardwood. These surfaces must be kept free of cracks, cuts, and other obstructions, that would interfere with proper cleaning.
2. Floor to Ceiling Requirements:  
A minimum of 74 inches of clear, unobstructed height over the aisle-way portion of the unit shall be provided.
3. Aisle Clearance Requirements:  
A minimum of 30 inches of unobstructed horizontal aisle space shall be provided.
4. Unfinished wooden surfaces are not permitted.
5. Construction joints shall be tightly fitted. Joints and seams shall be sealed so as to be readily cleanable.
7. Ventilation shall be adequate to provide a reasonable condition of comfort for employees.
8. Employees Personal Belongings Storage:  
A separate cabinet or drawer shall be provided for the storage of all employees' personal belongings.
9. Trash Receptor:  
Adequate waste receptacles shall be provided inside the vehicle. The waste receptacles shall be constructed so as to be smooth, durable, nonabsorbent, and easily cleanable. Cardboard boxes or milk crates are not accepted.
10. Fire Extinguisher and First Aid kit:
  - a. A properly mounted, minimum 10 B.C. –rated fire extinguisher shall be provided in a readily accessible location inside the unit.
  - b. A first aid kit shall be provided in a readily accessible location.
11. Emergency Exit:
  - a. An alternate, unobstructed passage of at least 24 inches by 36 inches opposite the main exit door shall be provided.
  - b. The interior latching mechanism shall be operable by hand without special tools or key.
  - c. The exit shall be labeled “Safety Exit” or “Emergency Exit” in contrasting colors with at least one (1) inch high letters.
12. Storage:
  - a. A separate cabinet or drawer shall be provided for the storage of parts and tools or other materials relating to mechanical operations.
  - b. A separate cabinet or drawer shall be installed for the storage of insecticides or other poisonous substances, if such substances are used.

Q. NON FOOD RELATED EQUIPMENT

1. Compressor units which are not an integral part of equipment, auxiliary engines, generators, batteries, battery chargers, water heaters, and similar equipment shall be installed in an area that is completely separated from food preparation and food storage areas. This storage compartment shall only be accessible from outside the unit.
2. All liquefied petroleum gas (LPG) equipment shall be installed in accordance to applicable fire codes (CCR, Title 25).

R. ELECTRICAL / POWER SUPPLY

1. Adequate electrical power shall be provided to operate the approved exhaust, lighting, and refrigeration system as well as any other accessories and appliances.
2. Exposed electrical wiring and extension cords are not permitted.

S. WATER SUPPLY / PLUMBING

1. The water system shall be designed and constructed such that water or air can be introduced without the water becoming contaminated. The water system shall deliver at least one gallon per minute to each sink basin in the unit.
2. A water supply tank of sufficient capacity to furnish an adequate quantity of potable water for food preparation, cleaning, and hand washing purpose shall be provided (minimum 30 gallons). Installation of equipment, that utilizes large volumes of potable water, such as cappuccino machines, ice machine and bulk beverage dispensing systems, shall require additional potable water capacity.
3. Potable water hose connection valves shall be at least five feet above the ground and equipped with a screw-type cap or an enclosed compartment.
4. Breather tubes or over-flow pipe openings shall be protected from the entrance of dust, insects, and other contamination. Water storage tanks shall be installed so as to be easily drained, flushed, and cleaned with an easily accessible outlet.

T. LIQUID WASTE SYSTEM

1. The liquid waste tank shall have a capacity at least 50 % greater than the minimum fresh water tank(s) requirements.
2. The liquid waste tank capacity shall be increased to hold a minimum of 15 % of any liquid waste export when food equipment such as cappuccino machines or bulk beverage dispensing systems are plumbed to the potable water supply.
3. The liquid waste tank capacity shall be increased at least 1/3 the volume of each of the ice bin.
4. All waste lines shall be connected to the waste tank with watertight seals.

5. The main waste outlet shall be equipped with an approved shut-off valve and cap to prevent liquid waste from draining onto the ground. The waste tank shall be installed so as to be easily drained, flushed, and cleaned. The waste outlet shall be easily accessible.
6. Air gap between food equipment and the liquid waste tanks shall be provided to prevent contamination by possible back flow. Air gap shall be twice the diameter of the liquid waste drain line.
7. A drainage schematic shall be provided for all applicable liquid generating equipment.

U. ADDITIONAL REQUIREMENTS FOR MOBILE FOOD PREPARATION UNITS WITH MULTIPLE DAILY OPERATING STOPS

1. Coffee urns shall be equipped with positive closing lids or installed in a compartment that will prevent excessive spillage of coffee in the interior of the unit in event of a sudden stop, collision, or overturn.
2. Coffee urns shall be equipped with perforated metal protective sleeves for the glass liquid level sight gauges.
3. Deep fat fryers and water bath or steam tables shall be equipped with positive closing lids to prevent splashing or excessive spillage in transit or in the event of a sudden stop, collision, or overturn of the unit. Such lids shall be designed and constructed to prevent pressure buildup, which could result in an explosion.
4. Baffles shall be provided in all liquid warming tables.
5. An approved, easily cleanable, knife holder and utensil storage box shall be provided.

V. REQUIREMENTS FOR STATIONARY MOBILE FOOD PREPARATION UNITS

1. Stationary mobile food preparation units shall conform to all construction requirements for mobile food preparation units.
2. Stationary mobile food preparation units built out of state shall meet applicable local governing jurisdiction.